

REMARKS

This patent application presently includes claims 1-62, all of which stand rejected. Various claims are amended to define the applicant's invention more clearly, and all rejections are respectfully traversed.

Claims 1-23, 25-29, 31-51, 53-56, and 58-62 were rejected as anticipated by Bertacchi U.S. Patent No. 6,625,461. This rejection is respectfully traversed. Bertacchi does not teach or suggest the present invention.

Bertacchi merely exemplifies the shortcomings of existing networks which are sought to be eliminated in accordance with the present invention. Referring to Figure 1 of Bertacchi, a mobile station 10 associated with a mobile switching center 22 and the home location register (HLR) 24 is roaming in an area served by a visited mobile switching center (VMSC) 20. A message destined for station 10 is sent by a terminal 12 to its mobile switching center (MSC) 18. In accordance with conventional communication protocols, MSC 18 would forward the voice call to MSC 22. Upon receiving the message, MSC 22 would contact HLR 24, requesting the current location of station 10. HLR 24 then provides a code to MSC 22 which identifies VMSC 20, and MSC 22 then communicates with VMSC 20. Thereafter, MSC 22 can address all communication for station 10 to VMSC 20. This is the normal operation when all blocks use the same signaling system. However, suppose that VMSC 20 is in a foreign signaling system and message center 22, both domestic. Message center 22 will then not be able to deliver a message to station 10, because it cannot route the physical address provided by the HLR 24. Even if routing were possible, the message would not be recognizable by VMSC 20 without conversion.

The solution taught by Bertacchi (see col. 5, lines 38-65) is that HLR 24 be constructed to convert the address code received from VMSC 20 at the time of registration into an address code that

is compatible with signaling system used by MC 22. As an alternative, Bertacchi suggests that VMSC 20 could send multiple address codes to HLR 24 at the time of registration. However, the burden is placed upon HLR 24 and/or VMSC20 to provide the necessary processing to resolve the issue.

In accordance with the present invention, the burden of interface translation is largely born at the interface between the two networks, so that roaming services can be provided to mobile stations having different protocols, with only readily available modifications of signaling nodes in either half of the network being required. In other words, the process performed by apparatus at the interface location provides transparent communications for roaming telephone devices, such that, at every involved node, every portion of the network perceives that the call is traversing a network that uses the communication protocol native to it.

Given the large number of disparate networks worldwide, it is not technically desirable, and possible is even not feasible, to simply command every network operator to completely redesign their systems to implement the protocols of every other system at which a subscriber might be present. It is thus this very problem created by the prior art such as Bertacchi that the present invention seeks to solve.

In short, Bertacchi requires ever increasing intelligence to be built into HLR's and other local components of the system. By making use of the present invention, all networks can use simple, basic components adapted to only the native protocol. Turning, for example, to claim 1 as currently amended, a method is performed at a interface location between first and second networks, where the networks use disparate messaging protocols. An original transaction is received from a first network in its protocol, converted to the second network protocol and forwarded to the home registration database of the second network. A responsive message is received from the second network in that network's protocol, converted into the first network's protocol, and forwarded to the originator on the

first network. All conversions are done at a single interface location between the two networks. As explained above, this is not taught or suggested by Bertacchi. Rather, Bertacchi teaches quite the opposite.

A similar distinction exists with respect to method claims 22, 33 and 51. Accordingly, all of the independent method claims are believed to distinguish patentably over Bertacchi. The remaining method claims all depend from these claims and are believed to be allowable based upon their dependence from an allowable claim.

Independent article claim 15 and independent apparatus claims 28, 42 and 56 distinguish patentably over Bertacchi for the same reason as the method claims. Article and apparatus claims inherently define elements that perform their functions in the same location (the location of the apparatus or article). Accordingly, it would not be possible to find a single apparatus or article that contains elements performing all of the functions defined in the independent claims. Accordingly, these claims are believed to be allowable. The remaining article and apparatus claims depend from these claims and are believed to be allowable based upon their dependents from an allowable claim.

Claims 24, 30, 52, and 57 were rejected as obvious over Bertacchi in view of Joensuu U.S. Patent No. 5,867,788. This rejection is respectfully traversed. Neither reference, nor the combination thereof renders these claims obvious.

Joensuu discloses a method and apparatus for communicating address information from an ITU mobile switching center (foreign) to an ANSI home location register (HLR- domestic). This addresses only the communication between MSC 18 and HLR 24 in Fig. 1 of Bertacchi. It teaches and suggests nothing about the basic interface concept of the present invention discussed above or that it could be of any benefit. Accordingly, Joensuu could not affect the patentability of claims 1-23, 25-29, 31-51, 53-56 and 58-62, either individually or in combination with Bertacchi. These claims are

therefore patentable over Bertacchi and Joensuu. Claims 24, 30, 52 and 57 depend from these claims and are believed to be allowable based upon their dependents from an allowable claim.

In summary, it has been demonstrated that all the claims, as presently amended, are patentable over Bertacchi and Jonensu, either individually or in combination.

Applicant's attorney has made every effort to place this patent application in condition for allowance. It is therefore earnestly requested that this patent application, as a whole, receive favorable reconsideration and that all of the claims be allowed as presently constituted. Should there remain any unanswered questions, the examiner is requested to call the applicants undersigned attorney at the telephone number indicated below.

In conjunction with this amendment the undersigned has petitioned for an extension of time and has paid the requisite fee. It is believed that no other fees are due with the present amendment. However, should it be determined otherwise, the commissioner is authorized to charge any deficiency in fees due with the present amendment to Deposit Account No. 11-0223.

Respectfully submitted,

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